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Seung June Yi

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LEE, HONG, DEGERMAN, KANG & SCHMADEKA

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EXAMINER

CONTINO, PAUL F

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/816,247	Applicant(s) YI ET AL.	
	Examiner Paul Contino	Art Unit 2114	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-12, 14-20, 29-31 and 35-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-12, 14-20, 29-31 and 35-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION: Final Rejection

Response to Arguments

1. The priority documents filed May 14, 2007, are in accordance with 35 U.S.C. 119(b) and have been accepted.
2. Applicant's arguments filed May 14, 2007, have been fully considered but they are not persuasive.
3. The Examiner respectfully disagrees with the Applicant's arguments on pages 11-12 of the Remarks concerning WCDMA/UMTS/3GPP as failing to describe "checking whether an error handling scheme has been provided" with regards to claim 9. In order for a determination to be made as to whether or not to discard or further process a data unit, an error scheme is inherently provided. This is broadly described in WCDMA as referenced by the Examiner under section 7.4.1. The specifics of the error scheme checking are described in the 3GPP Specification (*3GPP TS 25.322 V4.4.0 (2002-03)*) on pages 53-54. Specifically, section 11.1.3 on page 54 outlines the error scheme inherent to 3GPP, which is utilized by WCDMA. The description of the manner of handling data unit uses an error scheme via checking for a "no", "yes", and "no detect" in order to determine how to process a data unit. The Examiner equates the preceding description as taught by 3GPP, which is an inherent part of WCDMA data unit processing, with that described by the Applicant's Specification in paragraphs [0098]-[0099].

4. The Examiner respectfully disagrees with the Applicant's arguments on pages 12-13 of the Remarks concerning WCDMA/UMTS/3GPP as failing to "articulate that the CRC check result indicated whether the data unit has an error" or checking for an error handling scheme and further processing as a result of the error handling scheme check with regards to claim 20. In the second paragraph of WCDMA under section 7.4.1 the reference specifically discloses passing the result of a CRC check to the RLC layer for further processing, wherein the further processing includes utilizing an error scheme in a particular manner. This error scheme processing is described in the 3GPP specification as indicated in the previous paragraph.

5. The Examiner respectfully disagrees with the Applicant's arguments on pages 13-14 of the Remarks concerning CarTalk as failing to describe "instructions" which may be delivered with an erroneous SDU. Though the Examiner incorrectly pointed to a reference that appeared to be from WCDMA, page 90 of CarTalk describes the error indication as an "instruction" which determines how an erroneous SDU is to be handled (where an SDU makes up a PDU – see Figures 49 and 50). The preceding paragraphs describing the error handling by and error scheme, which parallels the description of the error handling as described by the Applicant's Specification in paragraphs [0098]-[0099], on page 54 of the 3GPP specification. An "instruction" as defined by the Applicant's Specification, such as in paragraph [0067], does not appear to be limited beyond an indicator of how to handle a data unit.

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6. The Examiner further feels that the invention, as claimed, continues to parallel the standard of communication and error handling as set out by the 3GPP specification. The Examiner invites the Applicant to offer an explanation as to how the claimed invention does in fact differ from the established 3GPP standard in a properly filed response to this Final Rejection Office Action to clarify any misinterpretation and application of the prior art.

Claim Objections

7. Claim 16 is objected to because of the following informalities: line 2 states the acronym SDU where, because of this being the first instance SDU appears in the claims, the Examiner recommends replacing “SDU” with “service data unit (SDU)” to clarify the proper acronym to be used. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 9-12 and 14-20 are rejected under 35 U.S.C. 102(b) as being anticipated by WCDMA (*WCDMA for UMTS: Radio Access for Third Generation Mobile Communications*).

As in claim 9, WCDMA discloses A method of processing data in a receiver apparatus used in a wireless communication system, the receiver apparatus comprising a medium access control (MAC) layer and a radio link control (RLC) layer for processing data units (*page 117 lines 5-6 under Introduction*), the method comprising the steps of:

communicating a data unit and a cyclic redundancy code (CRC) check result associated with the data unit from the MAC layer to the RLC layer (*page 123 lines 5-6 under 7.4.1 RLC Layer Architecture*);

determining in the RLC layer that the CRC check result indicates the data unit has an error (*page 124 in lines 6-7 where it is implied that a data unit has an error because of the determination as to whether or not the data unit should be discarded*); and

processing the data unit in accordance with one of a first manner and a second manner, the selection of one of the first manner and the second manner based upon at least an operation mode (*pages 123-124, where a first manner is interpreted as a result of either an acknowledged mode or an unacknowledged mode, and the second manner is interpreted as a result of a transparent mode*),

wherein the second manner comprises checking whether an error handling scheme has been provided (*page 123 lines 7-8 under 7.4.1 RLC Layer Architecture, where the determination as to whether to discard [no error handling] or mark erroneous data [error handling] is interpreted as checking for an error handling scheme*).

As in claim 10, WCDMA discloses the data unit is processed in the first manner if the operation mode is one of unacknowledged mode (UM) and acknowledged mode (AM) (*page 124*).

As in claim 11, WCDMA discloses the data unit is processed in the second manner if the operation mode is transparent mode (TM) (*pages 123-124*).

As in claim 12, WCDMA discloses the first manner comprises discarding the data unit in the RLC layer (*page 124*).

As in claim 14, WCDMA discloses if the error handling scheme is not provided, then the data unit is discarded (*page 123 lines 7-8 under 7.4.1 RLC Layer Architecture*).

As in claim 15, WCDMA discloses if the error handling scheme is provided, then the data unit is processed according to the error handling scheme (*page 123 lines 7-8 under 7.4.1 RLC Layer Architecture, marking of data as erroneous*).

As in claim 16, WCDMA discloses the error handling scheme comprises an instruction associated with a delivery of erroneous [service data unit (SDU)] (*page 123 in lines 7-8 under 7.4.1 RLC Layer Architecture, where the marking of erroneous data implies an instruction associated with an erroneous SDU*).

As in claim 17, WCDMA discloses the delivery of [an] erroneous (SDU) instruction indicates one of deliver an erroneous SDU to a higher layer with an error indication, discard an erroneous SDU (*page 124 lines 20-21, where upper layer notification and data unit discarding is interpreted as an error handling scheme*), and deliver an erroneous SDU to a higher layer without an error indication.

As in claim 18, WCDMA discloses the data unit received from the MAC layer does not include a header information associated with the MAC layer (*page 119 in the last sentence under MAC-c/sh*).

As in claim 19, WCDMA discloses the data unit received from the MAC layer is associated with a logical channel that is mapped in a 1:1 ratio with a transport channel (*page 119 in lines 5-6 under MAC-c/sh, where it is interpreted that mapping of the single BCCH logical channel to a single BCH/FACH transport channel implies a 1:1 mapping ratio*).

As in claim 20, WCDMA discloses A receiver apparatus for processing data in a wireless communication system, the receiver apparatus comprising:

a medium access control (MAC) layer that transfers a data unit and a cyclic redundancy code (CRC) check result associated with the data unit (*page 123 lines 5-6 under 7.4.1 RLC Layer Architecture; page 127 lines 23-26*); and

a radio link control (RLC) layer in communication with the MAC layer, the RLC layer receiving from the MAC layer the data unit and the CRC check result, wherein the RLC layer

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examines the CRC check result sent from the MAC layer that indicates whether the data unit has an error (*page 123 in the second paragraph under 7.4.1, which discloses delivering a result of the CRC check to the RLC layer; page 124 in lines 6-7 where it is implied that a data unit has an error because of the determination as to whether or not the data unit should be discarded*), and processes the data unit in accordance with one of a first manner and a second manner, the selection of one of the first manner and the second manner based upon at least an operation mode (*pages 123-124, where a first manner is interpreted as a result of either an acknowledged mode or an unacknowledged mode, and the second manner is interpreted as a result of a transparent mode*),

wherein the second manner comprises checking whether an error handling scheme has been provided (*page 123 lines 7-8 under 7.4.1 RLC Layer Architecture, where the determination as to whether to discard [no error handling] or mark erroneous data [error handling] is interpreted as checking for an error handling scheme*),

wherein the error handling scheme comprises delivery of an instruction associated with an erroneous SDU (*page 123 in lines 7-8 under 7.4.1 RLC Layer Architecture, where the marking of erroneous data implies an instruction associated with an erroneous SDU*),

wherein the instruction indicates one of deliver an erroneous SDU to a higher layer with an error indication, discard an erroneous SDU (*page 124 lines 20-21, where upper layer notification and data unit discarding is interpreted as an error handling scheme*), and deliver the erroneous SDU to a higher layer without an error indication.

* * *

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 35-40 and 42 are rejected under 35 U.S.C. 102(b) as being anticipated by WCDMA (*WCDMA for UMTS: Radio Access for Third Generation Mobile Communications*) in conjunction with 3GPP (*3GPP TS 25.322 V4.4.0 (2002-03)*).

The use of the 3GPP reference in conjunction with WCDMA for a multiple reference 35 U.S.C. 102(b) [see MPEP2131.01] is to prove the primary reference WCDMA is enabling and further describe the inherency of certain characteristics of WCDMA.

As in claim 35, WCDMA discloses a method of processing data by a radio link control (RLC) entity, the method comprising:

receiving the RLC data unit having a cyclic redundancy code (CRC) error (*page 123 in the second paragraph under 7.4.1, which discloses receiving a CRC error [CRC check result] in conjunction with the data*); and

selectively processing the RLC data unit having the CRC error in one of a first manner and a second manner (*pages 123-124, where a first manner is interpreted as a result of either an acknowledged mode or an unacknowledged mode, and the second manner is interpreted as a result of a transparent mode*),

wherein the first manner is performed when the RLC entity is in a non-transparent mode, the first manner comprising discarding the RLC data unit (*page 124, where a first manner is interpreted as a result of either an acknowledged mode or an unacknowledged mode, in which the data unit is discarded*), and

wherein the second manner is performed when the RLC entity is in a transparent mode, the second manner comprising one of further processing the RLC data unit and discarding the RLC data unit (*page 123, where the second manner is interpreted as a result of a transparent mode, where the data unit is discarded or processed and marked as erroneous*).

As in claim 36, WCDMA discloses the second manner further comprises processing [the] RLC data unit when an instruction associated with a delivery of erroneous service data units (SDUs) is configured (*page 123 in lines 7-8 under 7.4.1 RLC Layer Architecture, where the marking of erroneous data implies an instruction associated with an erroneous SDU; the instruction for further processing is inherent to Transparent Mode error processing, as is specified under 3GPP*).

As in claim 37, WCDMA discloses further processing the RLC data unit comprises at least one of delivering the RLC data unit together with an error indication to a higher protocol layer, discarding the RLC data unit (*page 124 lines 20-21, RLC data unit discarding*), and delivering the RLC data unit without error indication to a higher protocol layer.

As in claim 38, WCDMA discloses checking the CRC error information transferred together with the RLC data unit when the delivery of erroneous SDUs is not set (*WCDMA page 123 under 7.4.1; 3GPP page 54 under 11.1.3 "Delivery of Erroneous SDUs" is configured as "no"*); and

immediately discarding the RLC data unit when the RLC data unit contains an error (*WCDMA page 123 under 7.4.1 and 3GPP page 54, where only SDUs without errors are submitted to upper layers, while those with errors are discarded*).

As in claim 39, WCDMA discloses checking the CRC error information transferred together with the RLC data unit, when the delivery of erroneous SDUs is set (*WCDMA page 123 under 7.4.1; 3GPP page 54 under 11.1.3 "Delivery of Erroneous SDUs" is configured as "yes"*); and

informing an upper layer that the data unit contains an error when transmitting the RLC data unit to the upper layer (*WCDMA page 123 under 7.4.1 and 3GPP page 54, where all SDUs are transmitted to an upper layer, and those with errors provide an error indication*).

As in claim 40, WCDMA discloses processing the RLC data unit containing the error as a normal data unit and transferring the processed data unit to the upper layer without checking the CRC error information received together with the RLC data unit when the delivery of erroneous SDUs is set as "no detect" (*WCDMA page 123 under 7.4.1 and 3GPP page 54, see "Delivery of Erroneous SDUs" configured as "No detect", where all SDUs are transferred without regard to CRC error information*).

As in claim 42, WCDMA discloses the RLC data unit is received from a lower layer in the form of a RLC protocol data unit (PDU) (*WCDMA page 123 under 7.4.1, and 3GPP page 54 under 11.1.3 in the first line*).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 29-³¹~~34~~ are rejected under 35 U.S.C. 103(a) as being unpatentable over CarTALK (*Communication Architecture Deliverable D6*) in view of Nagpal et al. (US PGPub 2003/0211846).

As in claim 29, CarTALK teaches a method of processing data in a receiver apparatus used in a wireless communication system, the receiver apparatus comprising a physical layer and a medium access control (MAC) layer for processing data units (*Figs. 47-50*), the method comprising the steps of:

communicating a data unit and a cyclic redundancy code (CRC) check result associated with the data unit from the physical layer to the MAC layer (*Figs. 47 and 49; page 90*);

determining in the MAC layer that the CRC check result indicates the data unit has an error (*page 90*); and

checking whether an error handling scheme is provided (*page 90, last sentence, where an error notification is interpreted as an error scheme*),

wherein the error handling scheme comprises an instruction associated with delivery of an erroneous SDU (*page 90 last paragraph, where the error notification implies an instruction associated with an erroneous SDU*),

wherein the instruction indicates one of deliver an erroneous SDU to a higher layer with an error indication, discard an erroneous SDU (*page 90 last paragraph, where an SDU, which makes up a PDU, is discarded if a CRC indicates an error*), and deliver an erroneous SDU to a higher layer without an error indication.

However, CarTALK fails to teach the remainder of the limitations of the claim. Nagpal et al. teaches of examining the data unit for presence of header information associated with a MAC header (*paragraphs [0048]-[0050], where the discriminating indicator in the MAC header is interpreted as header information associated with a MAC header; claims 2 and 14*); discarding the data unit if the header information is present (*paragraphs [0048]-[0053]; claims 2 and 14*); and processing the data unit if the header information is not present (*paragraphs [0049]-[0053]*).

It would have been obvious to a person skilled in the art at the time the invention was made to have included the header checking as taught by Nagpal et la. in the invention of CarTALK. This would have been obvious because selective processing of CCCH messages as

taught by Nagpal et al. reduces power consumed (*abstract, paragraph [0010]*) in the same environment and implementation as taught by CarTALK.

As in claim 30, CarTALK teaches if the error handling scheme is not provided, then the data unit is discarded (*page 90 last sentence*).

As in claim 31, CarTALK teaches if the error handling scheme is provided, then the data unit is processed according to the error handling scheme (*page 90 last sentence, where error notification is interpreted as a result of the error handling scheme*).

* * *

11. Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over WCDMA in conjunction with 3GPP in view of AMR1 (*3GPP TS 25.415 V3.7.0 (2001-06)*), further in view of ARM2 (*3GPP TS 26.071 V4.0.0 (2001-03)*).

As in claim 41, WCDMA/3GPP teach of an RLC data unit. However, WCDMA/3GPP fails to teach of an adaptive multi-rate (AMR) codec. AMR1 and AMR2 teach of an RLC data unit which supports an AMR codec processing (*AMR1: page 12, last paragraph above 5 Transparent Mode, version 1; AMR2: page 6 in the first paragraph under 4 General*).

It would have been obvious to a person skilled in the art at the time the invention was made to have included the AMR codec processing as taught by ARM1/ARM2 in the invention of

WCDMA/3GPP. This would have been obvious because AMR is a well-known integrated feature common to WCDMA/3GPP which enhances the fault tolerance of such communication systems (*ARM2 page 6 first paragraph under 4 General*).

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

U.S. PGPub 2004/0097196 Ben Rached et al. discloses AMR with RLC.

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Contino whose telephone number is (571) 272-3657. The examiner can normally be reached on Monday-Friday 9:00 am - 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Scott Baderman can be reached on (571) 272-3644. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PFC
6/14/2007


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SUPERVISORY PATENT EXAMINER